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10/644,885	08/19/2003	Nakim Choi	4819CHOI-1	6349

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EXAMINER

NEGRON, ISMAEL

ART UNIT PAPER NUMBER

2875

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

HA

**Office Action Summary**

Application No.

10/644,885

Applicant(s)

CHOI ET AL.

Examiner

Ismael Negron

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 1, 11 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Title*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: **Self Powered Light Emitting Device for Use in Vehicle Wheel.**

### *Abstract*

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it repeats information given in the title and uses phrases which can be implied. Correction is required. See MPEP § 608.01(b).

### ***Drawings***

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: reference number **6a** (page 4, lines 19). In addition, note the following:

- reference number **6b**, mentioned in page 4, line 21;
- reference number **19c**, mentioned in page 4, line 28;
- reference number **19b**, mentioned in page 4, line 28;
- reference number **19a**, mentioned in page 4, line 29;
- reference number **20**, mentioned in page 5, line 1; and
- reference number **301**, mentioned in page 5, line 14.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **102** (used in Figure 1). In addition, note reference number **17**, used in Figure 1.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "**201**" has been used to designate different parts of the

claimed invention. See Figure 1 where such reference number is used to indicate the "body" and the "female screws". In addition, note reference number "200" as used in Figure 2.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "400" has been used to designate different parts in different embodiments. See Figures 3 and 4.

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "500" has been used to designate both "*fastening means*" (page 4, line 1) and "*axle*" (page 4, line 28). In addition, note reference character "500", used to designate "*fastening bolts*" (page 4, line 10) and "*stopping rim*" (page 5, line 1).

8. The applicant is advised that the reference characters must be properly applied, with no single reference character being used for two different parts or for a given part and a modification of such part. See MPEP §608.01(g). Correction is required.

Applicant is further advised that this action only exemplifies the objections to the drawings, applicant's cooperation is requested in correcting all the occurrences of the cited, or any other errors of which applicant may become aware in the specification.

9. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet

submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

10. Claim 1 is objected to because of the following informalities: lines 6 and 7 should read "openings formed on the outer peripheral surface thereof in such a manner as to correspond to the assembly grooves of the support plate for the assembly of the body with the axle; and". Appropriate correction is required.

11. Claim 11 is objected to because of the following informalities: the limitation "an additional shaft cap" suggests the existence of another different shaft cap as being part of the claimed invention, however, no such cap is claimed. The examiner suggests amending the claim to read: The light emitting device as claimed in claim 6, wherein an additional a shaft cap is attached to the shaft.

12. Claim 13 is objected to because of the following informalities: line 2 should read "formed on the outer surface of the cover unit in such a manner as to extend radially outwardly from". Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1, 3-7 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by STREPEK (U.S. Pat. 4,725,928).

STREPEK discloses a lighting assembly for a vehicle wheel, such assembly having:

- **a support plate (as recited in Claim 1), Figure 4, reference number 50;**
- **the support plate having assembly grooves formed on the outer peripheral surface thereof (as recited in Claim 1), Figure 4, reference number 52;**
- **the grooves being for mounting the plate to fastening means through which a wheel is attached to an axle (as recited in Claim 1), column 3, lines 12-17;**
- **a body (as recited in Claim 1), Figure 4, reference number 16;**
- **the body being coupled to the support plate (as recited in Claim 1), column 2, lines 43-40;**
- **a circuit board (as recited in Claim 1), inherent;**

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- **a coil assembly (as recited in Claim 1), Figure 4, reference number 80;**
- **the coil assembly having a coil (as recited in Claim 1), Figure 4, reference number 94;**
- **the circuit board being connected to the coil (as recited in Claim 1), as evidenced by Figure 4;**
- **a light-emitting element (as recited in Claim 1), Figure 4, reference number 36;**
- **the light emitting element being mounted on the circuit board (as recited in Claim 1), as evidenced by Figure 4;**
- **the body having openings formed on the outer peripheral surface thereof in such a manner as to correspond to assembly grooves of the support plate for the assembly of the body with the axle (as recited in Claim 1), as seen in Figure 4;**
- **a cover unit (as recited in Claim 1), Figure 4, reference number 100;**
- **the cover unit being mounted to the outer side of the body by means of a shaft (as recited in Claim 1), Figure 4, reference number 91;**
- **the cover unit having a permanent magnet assembly (as recited in Claim 1), Figure 4, reference number 82;**



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- the cover unit not being rotated when the wheel is rotated (as recited in Claim 1), column 4, lines 47-50;
- the support plate and the body being coupled to the fastening means of the axle by means of fastening nuts and fastening bolts through assembly grooves of the support plate (as recited in Claim 3), as seen in Figure 3;
- the support plate and the body being tightly sealed (as recited in Claim 3), as seen in Figure 4;
- a transparent cover element being formed on the body (as recited in Claim 4), Figure 4, reference number 26;
- the light-emitting element being contained in the transparent cover element (as recited in Claim 4), as seen in Figure 4;
- a hollow protrusion (as recited in Claim 5), Figure 4, reference number 74;
- the hollow protrusion protruding from the central portion of the body for a stable fixture to the body (as recited in Claim 5), column 4, lines 27-30;
- the coil assembly being inserted into the hollow protrusion (as recited in Claim 5), as seen in Figure 4;
- the shaft being inserted into shaft grooves of the support plate and body after passing through a shaft groove of the cover unit (as recited in Claim 6), as seen in Figure 4;

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- a snap ring (as recited in Claim 6), Figure 4, reference number 93;
- a stopping rim formed at the front end of the shaft (as recited in Claim 6), as seen in Figure 4;
- the snap ring being coupled to the stopping rim (as recited in Claim 6), as seen in Figure 4;
- an eccentric weight (as recited in Claim 7), Figure 4, reference number 112;
- the weight being installed at an inner bottom of the cover unit (as recited in Claim 7), as seen in Figure 4;
- the weight preventing the cover unit from rotating (as recited in Claim 7), column 5, lines 2-9;
- the transparent cover element having a concave-convex surface for scattering light (as recited in Claim 9), as seen in Figure 4;
- bearings (as recited in Claim 10), Figure 4, reference number 92;
- the bearings being inserted into the shaft holes of the support plate and the body (as recited in Claim 10), as seen in Figure 4;
- the support plate and the body being easily rotated along with the wheel but the cover unit does not rotate by means of the bearings (as recited in Claim 10), as evidenced by Figure 4;

- **a shaft cap being attached to the shaft (as recited in Claim 11), Figure 4, reference number 97;**
- **the coil assembly is inserted into the hollow protrusion of the body (as recited in Claim 12), as seen in Figure 4;**
- **a protrusion portion formed at the central portion of the cover unit (as recited in Claim 12), Figure 4, reference number 84;**
- **the protrusion portion being for inserting the magnet assembly thereto (as recited in Claim 12), column 4, lines 46 and 47; and**
- **the hollow protrusion being inserted to the inner side of the central protrusion portion to couple the cover unit to the body (as recited in Claim 12), as seen in Figure 4.**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over STREPEK (U.S. Pat. 4,725,928).

STREPEK discloses a lighting assembly for a vehicle wheel, such assembly having:

- **a support plate (as recited in Claim 1), Figure 4, reference number 50;**
- **the support plate having assembly grooves formed on the outer peripheral surface thereof (as recited in Claim 1), Figure 4, reference number 52;**
- **the grooves being for mounting the plate to fastening means through which a wheel is attached to an axle (as recited in Claim 1), column 3, lines 12-17;**
- **a body (as recited in Claim 1), Figure 4, reference number 16;**
- **the body being coupled to the support plate (as recited in Claim 1), column 2, lines 43-40;**
- **a circuit board (as recited in Claim 1), inherent;**
- **a coil assembly (as recited in Claim 1), Figure 4, reference number 80;**
- **the coil assembly having a coil (as recited in Claim 1), Figure 4, reference number 94;**
- **the circuit board being connected to the coil (as recited in Claim 1), as evidenced by Figure 4;**
- **a light-emitting element (as recited in Claim 1), Figure 4, reference number 36;**

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- **the light emitting element being mounted on the circuit board (as recited in Claim 1), as evidenced by Figure 4;**
- **the body having openings formed on the outer peripheral surface thereof in such a manner as to correspond to assembly grooves of the support plate for the assembly of the body with the axle (as recited in Claim 1), as seen in Figure 4;**
- **a cover unit (as recited in Claim 1), Figure 4, reference number 100;**
- **the cover unit being mounted to the outer side of the body by means of a shaft (as recited in Claim 1), Figure 4, reference number 91;**
- **the cover unit having a permanent magnet assembly (as recited in Claim 1), Figure 4, reference number 82; and**
- **the cover unit not being rotated when the wheel is rotated (as recited in Claim 1), column 4, lines 47-50.**

STREPEK discloses all the limitations of the claims, except

- the assembly grooves being U-shaped (as recited in Claim 2);
- a cap being coupled to the outer side of the cover unit into which the shaft is inserted (as recited by Claim 8);
- the shaft being concealed by the cap and not exposed to the outside (as recited by Claim 8).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use U-shaped assembly grooves (as recited in Claim 2) instead of the O-shaped assembly grooves of STREPEK, since it has been held by the courts that a change in shape or configuration, without any criticality, is nothing more than one of numerous shapes that one of ordinary skill in the art will find obvious to provide based on the suitability for the intended final application. See *In re Dailey*, 149 USPQ 47 (CCPA 1976). It appears that the disclosed device would perform equally well shaped as disclosed by STREPEK.

Regarding a cap being used to concealed the shaft from the outside (as recited by Claim 8), it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide such a cap to the patented structure of STREPEK, since the courts have stated that matters relating to ornamentation only which have no mechanical function cannot be relied upon to patentably distinguish the claimed invention from the prior art. *In re Seid*, 161 F.2d 229, 73 USPQ 431 (CCPA 1947).

15. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over STREPEK (U.S. Pat. 4,725,928) in view of HUANG (U.S. Pat. 6,371,072).

STREPEK discloses a lighting assembly for a vehicle wheel, such assembly having:

- **a support plate (as recited in Claim 1), Figure 4, reference number 50;**

- **the support plate having assembly grooves formed on the outer peripheral surface thereof (as recited in Claim 1), Figure 4, reference number 52;**
- **the grooves being for mounting the plate to fastening means through which a wheel is attached to an axle (as recited in Claim 1), column 3, lines 12-17;**
- **a body (as recited in Claim 1), Figure 4, reference number 16;**
- **the body being coupled to the support plate (as recited in Claim 1), column 2, lines 43-40;**
- **a circuit board (as recited in Claim 1), inherent;**
- **a coil assembly (as recited in Claim 1), Figure 4, reference number 80;**
- **the coil assembly having a coil (as recited in Claim 1), Figure 4, reference number 94;**
- **the circuit board being connected to the coil (as recited in Claim 1), as evidenced by Figure 4;**
- **a light-emitting element (as recited in Claim 1), Figure 4, reference number 36;**
- **the light emitting element being mounted on the circuit board (as recited in Claim 1), as evidenced by Figure 4;**
- **the body having openings formed on the outer peripheral surface thereof in such a manner as to correspond to**

- assembly grooves of the support plate for the assembly of the body with the axle (as recited in Claim 1), as seen in Figure 4;**
- **a cover unit (as recited in Claim 1), Figure 4, reference number 100;**
- **the cover unit being mounted to the outer side of the body by means of a shaft (as recited in Claim 1), Figure 4, reference number 91;**
- **the cover unit having a permanent magnet assembly (as recited in Claim 1), Figure 4, reference number 82;**
- **the cover unit not being rotated when the wheel is rotated (as recited in Claim 1), column 4, lines 47-50;**
- **a hollow protrusion (as recited in Claim 5), Figure 4, reference number 74;**
- **the hollow protrusion protruding from the central portion of the body for a stable fixture to the body (as recited in Claim 5), column 4, lines 27-30;**
- **the coil assembly being inserted into the hollow protrusion (as recited in Claim 5), as seen in Figure 4;**
- **the coil assembly is inserted into the hollow protrusion of the body (as recited in Claim 12), as seen in Figure 4;**
- **a protrusion portion formed at the central portion of the cover unit (as recited in Claim 12), Figure 4, reference number 84;**



- **the protrusion portion being for inserting the magnet assembly thereto (as recited in Claim 12), column 4, lines 46 and 47; and**
- **the hollow protrusion being inserted to the inner side of the central protrusion portion to couple the cover unit to the body (as recited in Claim 12), as seen in Figure 4.**

STREPEK discloses all the limitations of the claims, except anti-rotation blades being formed the outer surface of the cover unit for preventing the rotation of the cover unit in the driving direction of the wheel through the resistance of the air (as recited in Claim 13).

HUANG discloses a Prior Art self-powered wheel illumination device having blades formed on a cover unit for preventing the rotation of such cover unit through the resistance of the air when the wheel is rotated(as recited in Claim 13). See Prior Art Figure 1.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to add blades to the cover unit of STREPEK, since the use of such blades in combination with self-powered wheel illumination means is old and well known in the art as evidenced by HUANG. One would have been motivated for increasing the inertia of the cover unit by preventing the rotation of such cover unit through the air resistance.

***Relevant Prior Art***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Hall** (U.S. Pat. 3,548,185), **Pearsall et al.** (U.S. Pat. 4,775,919), **Park** (U.S. Pat. 4,782,431), **O'Donnell** (U.S. Pat. 5,497,302), **Bailey, Jr.** (U.S. Pat. 5,634,707), **Chung** (U.S. Pat. 6,382,820), **Cheng** (U.S. Pat. 6,386,731), **Murray** (U.S. Pat. 6,474,832) and **Luo** (U.S. Pat. 6,749,321) disclose self powered illumination devices for use with vehicle wheels.

***Conclusion***

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ismael Negrón whose telephone number is (571) 272-2376. The examiner can normally be reached on Monday-Friday from 9:00 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra L. O'Shea, can be reached on (571) 272-2378. The facsimile machine number for the Art Group is (703) 872-9306.


18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

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information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, go to <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) toll-free at 866-217-9197.

  
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March 17, 2005

  
THOMAS M. SEMBER  
PRIMARY EXAMINER